

IN THE US PATENT & TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS & INTERFERENCES

APPLICANTS: KONISHI et al.  
SERIAL #: 10/082,984  
FILED: 25 FEB. 2002  
TITLE: LIQUID CRYSTAL DISPLAY  
EXAMINER: George WANG ART UNIT: 2871

REPLY BRIEF FOR APPLICANTS

This is in response to the Examiner's Answer of 28 FEB. 2005.  
Pages 7-10 of the Answer make incorrect arguments in response to  
the Brief on Appeal filed NOV. 10, 2004.

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I. THE EXAMINER RELIES UPON A STRAINED INTERPRETATION OF MAIN CLAIM 1, TO JUSTIFY IGNORING STRUCTURAL FEATURES WHICH ARE DAMAGING TO HIS ARGUMENT

Main claim 1 recites "a terminal electrode for connecting the gate line or source line to at least one external signal source" and the Final Rejection attempts to read this electrode onto element 14C shown in FIG. 6 of NISHIKAWA USP 5,724,107, despite the fact that element 14C connects to a storage capacitor 40 (internal-as also shown in FIG. 6), rather than to a gate line, a source line, or a signal source. Page 7 of the Answer attempts to ignore this structural difference by arguing "The terminal electrode of Nishikawa is connected not only to a storage capacitor, but also to the source and gate lines, albeit indirectly." This interpretation is strained and incorrect.

The Examiner has not pointed out where the NISHIKAWA teaches even an indirect connection to source and gate lines of the LCD.

In an electrical circuit, almost every element could be said to "indirectly connected" to each other element of the circuit, but such an interpretation would so broaden the term "connected" as make it meaningless. For example, two transistors which are "connected" with 15 intermediate elements in the same circuit path usually do not affect each other's switching. The CHISUM treatise, in section 18.07(4)(b), relating to the interpretation of "joinder" words in claims, quotes NEC Corp. v. Hyundai Electronic Industries Co. Ltd., 30 F.Supp.2d 546 (E.D. Va. 1998) that, "in a patent to a semiconductor device, the term "operatively connecting" two amplifiers is limited to direct electrical connection and does not encompass, more broadly, information transfer through a buffer circuit that creates no electrical connection between the amplifiers." Similarly, the NISHIKAWA electrode 14C cannot reasonably be said to be "connected" in the same manner as claim 1's "terminal electrode."

II. THE EXAMINER'S ANALYSIS IGNORES THE PURPOSE BEHIND THE CLAIMED COMBINATION OF STRUCTURAL FEATURES, YET ATTEMPTS TO ASSEMBLE A MOSAIC OF SIMILAR FEATURES, WITHOUT SUFFICIENT MOTIVATION.

In the paragraph bridging pages 7-8 of the Answer, the Examiner argues that Applicant "has recognized another advantage which would flow naturally from following the suggestion of the prior art" by positioning the insulating layer between two metallic layers. In response to Applicant's argument that the references fail to suggest Applicant's positioning of an insulating layer in order "to minimize exfoliation," a mechanical protection purpose, the Examiner asserts that this purpose is not relevant, and then tries to analyze this feature in isolation from the overall claimed structure. The Examiner plucks the TFT pixel-forming structure feature from the FUJIHARA reference, the "terminal electrode" element from the NISHIKAWA reference, and the liquid-crystal-layer-between-substrates feature from the ELLIS reference, without establishing sufficient motivation to combine the references in the manner suggested in the rejection.

Every integrated circuit will have an insulating layer between two adjacent metallic layers; otherwise, the two metallic layers would be a single metallic layer. However, the Examiner has not found the overall structure, as recited in claim 1, in any one reference. It is not correct to examine each phrase of the claim in isolation from the rest of the structure, and then to allege that the feature in the phrase is "suggested" by a prior art structure.

III. RECENT JURISPRUDENCE CONFIRMS THAT DISREGARDING A CHARACTERIZING CLAUSE, WHICH STATES A CONDITION MATERIAL TO PATENTABILITY, CONSTITUTES INCORRECT ANALYSIS.

The last 9 lines of main claim 1 are a "wherein" clause, which, Applicants contend, state a condition material to patentability. The Court of Appeals for the Federal Circuit, in Hoffer v. Microsoft, IBM and Ariba (No. 04-1103, decided APR. 22, 2005), reported 69 BNA Patent, Trademark & Copyright Journal 691, issue of APR. 29, 2005, stated "It is correct that a 'whereby' clause generally states the result of the patented process. However, when the 'whereby' clause states a condition that is material to patentability, it cannot be ignored in order to change the substance of the invention." Applicants submit that its "wherein" clause should be treated like a "whereby" clause.

The Examiner's Answer contends: "The claim language clearly indicates that Appellant's 'functional effect' applies 'during fabrication of said display' so the limitation clearly qualifies as a process-by-product limitation."

Claim 1 recites that the purpose of the claimed structure, particularly the positioning of the insulating layer therein, is to minimize exfoliation, and subsequent short circuits.

Although the exfoliation is minimized during fabrication, the exfoliated metal strips persist at the end of the fabrication process and are a permanent part of the resulting structure. If the strips are there, short circuits will happen long after fabrication is completed. The CHISUM treatise, in section 8.05(4), quotes Fromson v. Advance Offset Plate, Inc., 720 F.2d 1565, 1570, 219 USPQ 1137 (Fed. Cir. 1983) for the statement "That a process limitation appears in a claim does not convert it to a product-by-process claim."

Applicants respectfully submit that the analysis in the Answer is incorrect, for the reasons set forth in Hoffer.

#### IV. THE ANSWER IS FACTUALLY INCORRECT REGARDING METAL SHAVINGS.

Page 9 of the Examiner's Answer asserts that "The problem of metal shavings, which Appellant goes to great length to discuss, is nowhere found in the claims."

The phrase "exfoliation of the second metallic line," in the penultimate line of claim 1, quite clearly describes the creation of metal shavings, and, if the reader were uncertain about the meaning of the phrase, the reader would interpret the phrase in the light of the specification. Specification pages 5 and 7 explain the meaning of the term "exfoliation" and describe how, "when the edge of the substrate is chamfered, the source line 9 can be peeled off. The peeled metal pieces may contact each other to electrically connect the adjacent terminals, so that a problem of short-circuit between adjacent lines can be caused." The Answer's characterization, of what the claims say, is simply factually incorrect.

In the discussion of the alleged motivation to combine FUJIHARA, NISHIKAWA and ELLIS with each other, the Answer points to the advantages which each reference alleges for itself, but fails to show why one would try to combine the structures of the references, if one had not already read the present disclosure, and used hindsight reasoning.

## CONCLUSION

In view of the foregoing, Applicants respectfully urge that the Final Rejection of claims 1-6 be reversed, for the reasons set forth in the Brief on Appeal, and in this Reply Brief.

Respectfully submitted,

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